Claims:

1. A process for obtaining a protein heterologous to yeast as a product of yeast expression, which comprises:

transforming a yeast organism with a yeast expression vehicle comprising the DNA sequence of the promoter for yeast alpha factor operably connected to a DNA sequence encoding a protein heterologous to the yeast organism;

culturing the transformed organism; and
recovering the protein from the culture.

2. A process for obtaining a protein heterologous to yeast as a product of yeast expression, which process comprises:

transforming a yeast organism with an expression vehicle comprising the DNA sequence encoding substantially the pre-pro peptide of yeast alpha factor operably connected in translation reading frame to a DNA sequence encoding a mature protein heterologous to the yeast organism;

culturing the transformed organism; and
recovering the protein from the culture.

3. A process for obtaining a protein heterologous to yeast as a product of yeast expression, processing and secretion, which process comprises:

transforming a yeast organism with an expression vehicle comprising the DNA sequence of the promoter operably linked to substantially the pre-pro peptide sequence of the yeast alpha factor

gene which is operably connected in translation reading frame to a DNA sequence encoding a mature protein heterologous to the yeast organism;

culturing the transformed yeast organism; and recovering protein from its supporting medium.

4. A process for secreting a protein heterologous to yeast into the supporting medium, which process comprises:

transforming a yeast organism with an expression vehicle comprising the DNA sequence encoding substantially the pre-pro peptide of yeast alpha factor, operably connected in translation reading frame to a DNA sequence encoding a mature protein heterologous to the yeast organism; and

culturing the transformed organism.

5. The process of Claim 4 wherein said DNA sequences are under the control of alpha factor promoter.

6. A yeast expression vehicle comprising the DNA sequence of the promoter of the yeast alpha factor gene operably connected to a DNA sequence encoding a protein heterologous to the yeast organism.

7. The expression vehicle of Claim 6 which also includes the DNA sequence encoding substantially the pre-pro peptide of yeast alpha factor operably linked in translation reading frame upstream to the DNA sequence encoding a mature protein heterologous to the yeast organism.

SBC10

8. A yeast expression vehicle comprising the DNA sequence encoding substantially the pre-pro peptide of yeast alpha factor gene operably connected in translation reading frame to a DNA sequence encoding a mature protein heterologous to the yeast organism.

B

9. The expression vehicle of ~~Claims 6 through 8 wherein~~ Claim 6, wherein the DNA encoding heterologous protein ~~s.a.g.~~ encodes for a protein selected from the group consisting of human interferon, bovine interferon, tissue plasminogen activator, and rennin.

B

10. The expression vehicle of ~~Claims 6 through 8~~ Claim 6 wherein the DNA encoding heterologous protein encodes for insulin-like growth factor.

B

11. A yeast organism transformed with the expression vehicle of ~~Claims 6 to 10.~~ Claim 6

12. The protein produced by the process of Claim 1.

13. The protein produced by the process of Claim 2.

14. The protein produced by the process of Claim 3.

15. The protein produced by the process of Claim 4.

16. A yeast organism capable of producing mature heterologous protein in the supportive medium, as a product of expression with a N-terminus pre-sequence derived from yeast alpha factor DNA, processing of said pre-sequence and secretion of the mature protein into the medium.

17. The organism of Claim 16 wherein the mature heterologous protein is human insulin-like growth factor.

add B3

0384L

Add C12